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Testimony on
The American Energy Initiative: A Focus on EPA's Greenhouse Gas Regulations

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House Energy and Commerce Committee
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Chairman Whitfield, Ranking Member Rush, and members of the subcommittee, thank you very much for the opportunity to testify today about the regulation of industrial carbon pollution under the Clean Air Act.

Climate change represents one of the gravest threats posed to humans and it is essential that the United States and other nations significantly reduce their industrial carbon and other pollutants responsible for it. The United States and other nations are already experiencing many of the climate change impacts scientists have warned us about, including warming temperatures, severe drought, massive rainfall and floods, and other extreme weather events.

In 2010 the National Academy of Sciences determined that global warming is real, and human induced:

> There is a strong, credible body of evidence, based on multiple lines of research, documenting that **climate is changing and that these changes are in large part caused by human activities.** While much remains to be learned, the core phenomenon, scientific questions, and hypotheses have been examined thoroughly and have stood firm in the face of serious scientific debate and careful evaluation of alternative explanations.

The United States Global Change Research Program, primarily written under President George W. Bush, determined that "global warming is unequivocal and primarily human-induced." It further states that climate related impacts are visible now and will continue to grow.

Americans believe global warming is real. A just-released public opinion survey by the Brookings Institute found overwhelming agreement that "there is solid evidence of global warming." It found that 81 percent of Democrats, 42 percent of Republicans, and 72 percent of independents believe there is solid evidence of global warming.

Global warming pollution on the rise

A report from the National Oceanic and Atmospheric Administration, or NOAA, showed the continental United States set temperature records for the warmest spring, largest seasonal departure from average, warmest year to date, and warmest 10-month period.

NOAA also just released its "State of the Climate Global Analysis" for May 2012. It reported that this past month was the second warmest May globally since records began in 1880, behind only 2010. It was the hottest May *ever* for the northern hemisphere.

As global warming continues, droughts are projected in the Southwest that will likely reduce perennial vegetation and result in increased dust storms. Dust bowls, extreme weather, and food insecurity will all result. It is why 33 generals and admirals in 2010 called for a comprehensive climate and energy legislation since climate change is a threat to U.S. security.

The U.N. Intergovernmental Panel on Climate Change projects that we must keep atmospheric warming below 2 degrees centigrade, or 3.6 degrees Fahrenheit, to stave off the worst impacts of global warming. This requires limiting atmospheric carbon and other pollutants to no more than 450 parts per million.

Yet pollution from the United States, China, India, and other nations continue to accumulate in the atmosphere. On May 31, 2012 the Associated Press reported that NOAA scientists at monitoring stations in the Arctic reported carbon and other climate pollution readings over 400 parts per million in the atmosphere.

> Readings are coming in at 400 and higher all over the Arctic. They've been recorded in Alaska, Greenland, Norway, Iceland and even Mongolia. But levels change with the seasons and will drop a bit in the summer, when plants suck up carbon dioxide, NOAA scientists said.

The International Energy Agency announced last month that there was a record 3.2 percent increase in worldwide carbon pollution from 2010. Worldwide, coal was responsible for 45 percent of these omissions.

Until 2006 the United States was the largest emitter of carbon and other pollution responsible for climate change. That dubious distinction now belongs to China. We are, however, the greatest cumulative historical contributor to the atmospheric pollution responsible for global warming. Therefore, we must begin to drastically reduce our carbon pollution to slow the impacts of global warming.

Public strongly supports EPA action according to opinion polls

A March 2012 national poll conducted for the American Lung Association by bipartisan pollsters found overwhelming support for standards to reduce carbon pollution from power plants. According to this survey 54 percent of Republicans, 72 percent of independents, and 87 percent of Democrats supported carbon pollution reductions. The American Lung Association poll found that:

> Voters overwhelmingly believe such carbon standards will have a positive impact on air quality (74 percent) and public health (73 percent) and, more importantly, a 44 to 25 percent plurality believe they will have a positive impact on the economy and jobs.
>
> After a balanced debate with messages in support of and opposition to new carbon standards, support still remains robust, near a 2-to-1 margin (63 percent favor, 33 percent oppose) nationally.
>
> Even after the balanced messaging, independents continue to support the new standards by a 32-point margin (65 percent to 33 percent).

Another national survey released on April 26, 2012 by the Yale Project on Climate Change Communication and the George Mason University Center for Climate Change Communication found that:

> 75 percent [of Americans] support regulating carbon dioxide as a pollutant. Among registered voters, 84 percent of Democrats, 77 percent of Independents, and 67 percent of Republicans support this policy [limiting pollution from new power plants].

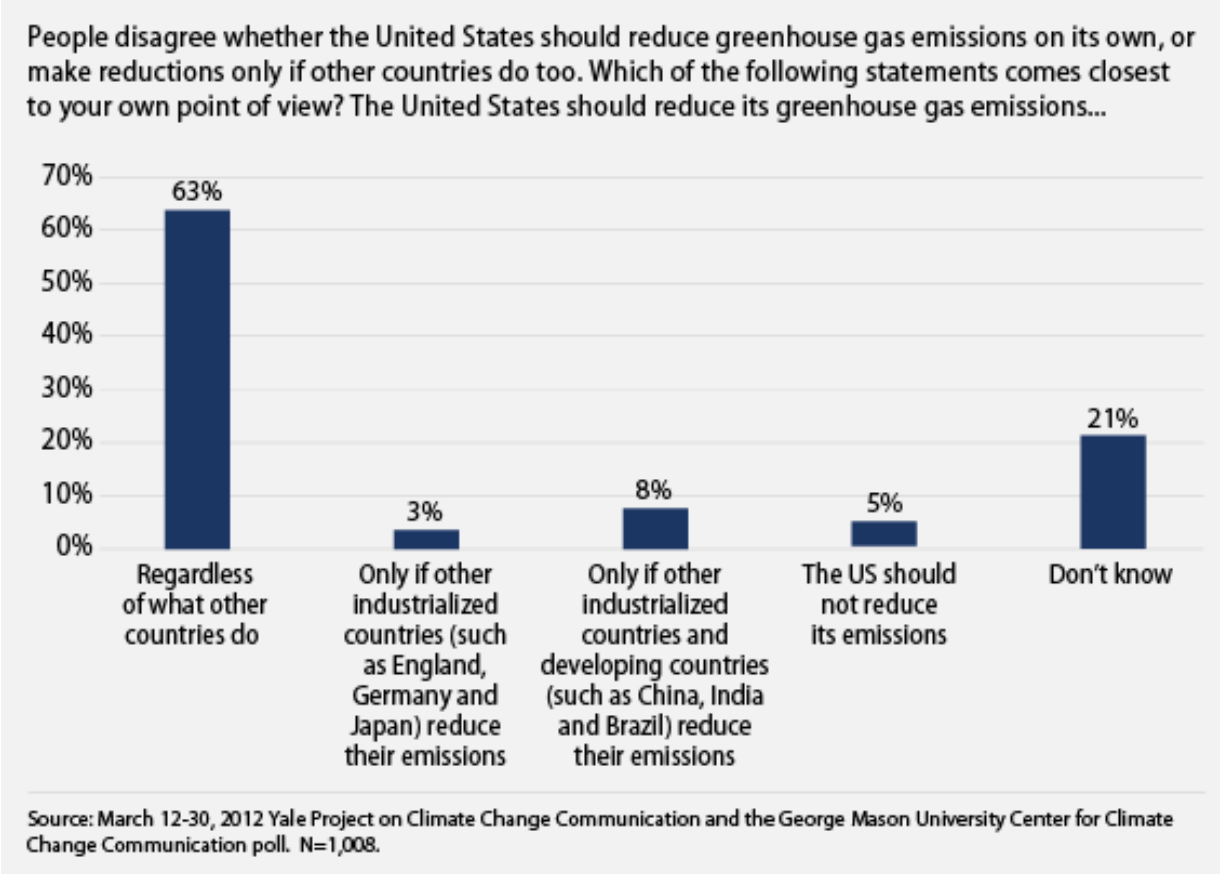
Sixty-one percent of Americans also support holding the fossil fuel industry—coal, oil, and natural gas—responsible for all hidden public health costs associated with illness from air and water pollution. As the Yale Project reports, "68 percent of Democrats, 72 percent of independents, and 54 percent of Republicans support this policy."

Additionally, the Yale survey finds that by a 2-to-1 margin, Americans accurately understand that global warming makes a number of extreme weather events worse.

CAP's Ruy Teixeira further analyzed this poll and found the following results:

- 63 percent of respondents believe that the U.S. should reduce greenhouse gas emissions regardless of what other countries do; only 5 percent of respondents do not think that the U.S. should reduce its emissions.

- 62 percent of Americans support protecting the environment, even if it reduced economic growth.



The bipartisan March 2012 poll from the American Lung Association surveyed 2,400 likely Republican, Democratic, and independent voters and found 72 percent support carbon emissions standards for new and existing power plants. The pollsters found that:

> After listening to a balanced debate with messages both for and against setting new carbon standards, support still remained robust with a near 2-to-1 margin (63 percent in favor and 33 percent opposed).

The Republican pollster Marc DelSignore, president of Perception Insight, concluded, **"The poll does show there is broad support across partisan lines for new carbon regulations on power plants."**

Supreme Court rules that Clean Air Act applies to global warming pollution

The Supreme Court provided another approach to reducing carbon pollution. It ruled in the 2007 case *Massachusetts v. EPA* that the Clean Air Act applies to carbon pollution responsible for global warming. The majority wrote that "greenhouse gases fit well within the Clean Air Act's capacious definition of 'air pollutant.'"

Based on this decision, EPA has the authority and responsibility to set limits on carbon pollution from mobile and stationary sources.

President Bush's EPA determines that carbon pollution endangers Americans

The first step in this process requires EPA to determine whether carbon pollution "endangers the public health and welfare." In 2008 then EPA Administrator Stephen Johnson made such a determination. He wrote President George W. Bush that an endangerment finding was warranted under the science and the law:

> Your Administration is compelled to act on this issue under existing law.
>
> The Supreme Court's *Massachusetts v EPA* decision still requires a response. That case combined with the latest science of climate change **requires the Agency to propose a positive endangerment finding**… the state of the latest climate change science does not permit a negative finding, nor does 'it permit a credible finding that we need to wait for more research.
>
> Also within the next several months, EPA must face regulating greenhouse gases from power plants, some industrial sources, petroleum refineries and cement kilns.

Then-administrator Johnson reminded President Bush that he had legal obligation backed with ample scientific evidence to make an endangerment finding. He also told the president that the EPA must regulate carbon pollution from power plants and other sources. President Bush declined to act but that did not alter the legal or scientific reasons compelling action.

After Bush inaction, Obama administration complies with Supreme Court and makes "endangerment finding"

It fell to the Obama administration to review the science and make the endangerment finding. After nearly a year of review, including the issuance of the "Global Climate Change Impacts in the U.S." report, EPA Administrator Lisa Jackson followed the science and the law by issuing an endangerment finding for carbon and other pollutants. The Endangerment Finding observed that

air pollution "endanger[ed] both the public health and the public welfare of current and future generations."

The Endangerment Finding determined that well-mixed greenhouse gas air pollution is reasonably anticipated to endanger public health. For instance, EPA noted that scientists found that climate change will cause more frequent unusual hot days and heat waves. Heat is already the leading cause of weather-related deaths in the United States. This will intensify in magnitude and duration, threatening the lives and health of our most vulnerable people, particularly seniors.

The EPA determined that:

> The populations most sensitive to hot temperatures are older adults, the chronically sick, the very young, city-dwellers, those taking medications that disrupt thermoregulation, the mentally ill, those lacking access to air condition, those working or play outdoors, and socially isolated persons.

The United States will also experience an increase in regional ozone pollution due to higher temperatures and poor air circulation. This will escalate the associated incidence of premature deaths and respiratory illnesses.

Climate change will also cause more extreme weather, including severe precipitation and floods, drought, and storms. This will increase deaths, injuries, infectious diseases, and stress-related disorders and other adverse effects.

The United States experienced record-setting extreme weather disasters in both 2010 and 2011, according to Federal Emergency Management Agency data. 2010 had 81 major disasters and 2011 had 99. These disasters included severe flooding, hurricanes, tornadoes, snowstorms and more. "Major disasters" qualify for a wide range of federal assistance programs, including funds for both emergency and permanent work.

NOAA reports that 14 disasters in 2011 cost more than $1 billion in assistance to clean up, shattering the previous record from 2008. Scientists have been warning that accelerated climate change would increase the frequency or severity of many of these types of disasters.

For instance, floods cause deaths, injuries, infectious diseases, and post-event mental health problems. Last year was one of the worst years in U.S. history for floods, according to data from FEMA. The flooding of the Mississippi River in April and May 2011 set new records for water levels. This flooding killed at least 20 people and caused nearly $4 billion in damages. The federal Global Climate Research program found that these sorts of floods can be expected more frequently as precipitation in the region continues to increase.

Some may challenge the endangerment finding, but it is important to note that the EPA's inspector general released a report in 2011 that found the endangerment finding met guidelines for ensuring that all decisions were based on robust scientific analysis and "followed requirements and guidance related to ensuring the quality of the supporting technical information."

The Inspector General report concluded that

> EPA undertook a thorough and deliberate process in the development of this [endangerment] finding, including a careful review of the wide range of peer-reviewed science. Since EPA finalized the endangerment finding in December of 2009, the vast body of peer reviewed science that EPA relied on to make its determination has undergone further examination by a wide range of independent scientific bodies. All of those reviews have upheld the validity of the science.

After Endangerment Finding, Obama administration sets carbon reductions for motor vehicles

Once the endangerment finding was made, EPA was obligated to establish carbon pollution reduction standards. The two largest sources of this pollution are transportation and electricity generation, at 31 and 40 percent, respectively.

The Obama administration began the reduction of carbon pollution from motor vehicles. It reached a consensus about the proposed standards with most auto manufacturers, the United Auto Workers, California and other states, and public health advocates.

In 2010 the Department of Transportation and EPA finalized fuel economy and carbon pollution tailpipe standards for vehicles beginning in model year 2012 to 2016 vehicles that increase fuel economy to 35.5 mpg, and would limit carbon pollution to 250 grams per mile. These standards would save 960 million metric tons of carbon pollution over the life of the vehicles built between 2012-2016. The standards would also save 1.8 billion barrels of oil.

In November 2011 the administration proposed a second phase of modernized fuel economy and carbon pollution standards for vehicles built between 2017 and 2025. These cars and light trucks would have to average no more than

> 163 grams/mile of carbon dioxide (CO_2) in model year 2025, which is equivalent to 54.5 miles per gallon (mpg) if the vehicles were to meet this CO_2 level all through fuel economy improvements.

This is also a consensus proposal made with most of the interests that agreed to the first round standards. This second phase would reduce carbon pollution by 2 billion metric tons over the lifetimes of the light duty vehicles sold between 2017 and 2025. They would also save 2.2 million barrels of oil per day. DOT and EPA expect to finalize these standards later this year.

Heavy-duty trucks are the largest source of carbon pollution in the transportation sector after light-duty vehicles—approximately 22 percent of all emissions. In 2011 the Obama administration established the first-ever fuel economy standards for these trucks, along with a limit on carbon pollution. The standards for model-year 2014 to 2018 heavy-duty trucks will reduce greenhouse gas pollution by 9 percent to 23 percent depending on the size class of the vehicle. The standards will also save 530 million barrels of oil during the lifetime of these vehicles.

The Hill reported that:

Similar to how previous fuel-efficiency rules were made, the Obama administration worked closely with industry groups to develop the heavy-duty truck standards. Navistar, Volvo, Chrysler, Conway and others all support the standards.

EPA "tailoring rule" limits carbon pollution reductions to largest sources

After EPA made the endangerment finding, and established limits on carbon pollution from motor vehicles, it was required by law to set carbon and other greenhouse gas pollution limits from new or significantly modified sources.

EPA took a common sense approach to this challenge by focusing on new industrial sources that emit more than 100,000 tons per year of carbon pollution, and on significantly modified facilities that increase their emissions by 75,000 tons per year. This "tailoring" rule includes the sources of about 70 percent of industrial carbon pollution. The rule applies to large power plants, oil refineries, chemical facilities and landfills. Smaller sources, including homes, bakeries, small businesses, churches, and family farms, are not covered by the rule.

These large new or significantly modified pollution sources must meet a "Best Available Control Technology" (BACT) standard, which considers technical feasibility, cost and other energy, environmental and economic impacts. Whether a proposed permit complies with BACT is a case-by-case decision made by state/local permitting agencies. The EPA encourages these agencies to use a "top-down" BACT review process, which has been employed for decades for other pollutants.

EPA issued its permitting guidance in November 2010. It included the following recommendations:

- Energy efficiency will constitute BACT in most cases
- Carbon capture and storage (CCS) should be evaluated, but in most cases will not technologically feasible or affordable

The agency also issued recommendations for pollution control measures for seven large industrial sectors.

- Power plants
- Large industrial, commercial or institutional boilers
- Pulp and paper manufacturing
- Cement manufacturing
- Oil refineries
- Iron and steel manufacturing
- Nitric acid plants

Of course lobbyists representing companies covered by the carbon pollution permitting requirements and their political allies issued a hue and cry that these requirements would slow or halt the construction of new or significantly modified facilities.

As usual, these concerns were vastly overblown. During the first year of the permit requirement, the estimated number of projects that met the carbon pollution thresholds has been less than both industry and EPA predicted. As of December 1, 2011, EPA and the state permitting authorities have issued 18 permits with carbon pollution limits. There were about 50 other permit applications pending – an average of one per state.

Inaction on these new sources of carbon pollution would be indefensible from both a legal and scientific perspective. EPA has crafted a system that focuses on the biggest potential pollution sources, while basing reductions on energy efficiency that should reduce pollution while saving these facilities money. In other words, the EPA approach will make these new facilities cleaner and more efficient, which is a win-win.

Reducing carbon pollution from future power plants

On April 13 the Environmental Protection Agency proposed the first-ever rules to limit carbon dioxide pollution from new power plants. Existing power plants are responsible for adding more than 2 billion tons of carbon and other toxic pollutants into the air each year—nearly 13,000 pounds for every man, woman, and child in the United States.

EPA's proposed standard to limit carbon pollution from new power plants is employing authority granted by Clean Air Act. It would only apply to:

> New fossil-fuel-fired electric utility generating units, or EGUs. For purposes of this rule, fossil-fuel-fired EGUs include fossil-fuel-fired boilers, integrated gasification combined cycle units and stationary combined cycle turbine units that generate electricity for sale and are larger than 25 megawatts.

When final, the rules will require new power plants to emit no more than 1,000 pounds of carbon pollution per megawatt hour of electricity. This corresponds to a 40 percent to 60 percent decrease from what the typical new coal-fired power plant releases.

Requiring new power plants to take steps to limit their carbon pollution will force them to "internalize" or account for pollution that they would have otherwise emitted into the atmosphere. As noted earlier, society will bear the costs from this pollution due to more smog, deadly heat waves, severe floods, and other extreme weather events. These additional costs may make some of these proposed coal-fired power plants uneconomical, so they may be canceled.

Moreover, the additional cost to produce cleaner coal power from plants that are built should increase the economic incentive for utilities to instead invest in renewable electricity generated by the sun, wind, and other clean sources. As investments in clean power sources increase, their costs should decrease due to technological and manufacturing advancements. As a result, consumers will have more choices about where their energy comes from.

The carbon pollution standard provides certainty for utilities planning to build new power plants. Until now, utilities faced great uncertainty about what level of reduction—if any—would be required by future carbon pollution standards. The EPA's Regulatory Impact Analysis of this proposed rule determined that it:

> Will reduce regulatory uncertainty by defining section 111(b) [Clean Air Act] requirements for limiting GHG from new EGU [electricity generation unit] sources.

Ralph Izzo, chairman and CEO of Public Service Enterprise Group, or PSEG, spoke favorably about the proposal because of the certainty it gives utilities. PSEG is a major unregulated independent power producer in the United States with nuclear, coal, and natural gas plants in four states. Rizzo said that the proposal:

> Establishes a logical and modest standard for new electric power plants and provides the industry with much needed regulatory certainty. The EPA provides a framework for the industry to confront this problem in a cost effective manner.

In addition, some utilities have adequate financial resources to comply with the proposed standards. NRG Energy has plans to build a power plant in Texas that would emit 14.8 billion pounds of carbon pollution a year and be required to meet the EPA limits. It is unclear if NRG intends to actually build the plant. In 2011 NRG earned $109 million in profit while also sitting on $1.1 billion in cash reserves. NRG and other companies should invest in innovative technologies, such as carbon capture and storage, to meet the standard.

American Electric Power, which has a large number of coal plants and is an opponent of other recent EPA safeguards, does not anticipate abrupt negative economic impacts from the rule. Melissa McHenry, a spokeswoman for AEP, said:

> In the near term, the impact will not be as great. It impacts the ability to expand the use of coal for electricity, but it doesn't cause immediate concern for us.

Global warming pollution and its damages will continue to grow without additional reductions from operating power plants, oil refineries, and other industrial sources.

Even without the proposed rules, electricity generation from coal has declined significantly, primarily due to low natural gas prices. New figures from the U.S. Energy Information Administration found that coal generated just 36 percent of U.S. electricity in the first quarter of 2012. This represents a nearly 20 percent decline in coal generation over the same time last year. As previously noted, this has led to a decline in carbon pollution from power plants in 2010 and 2011 that should continue through next year before rising again in 2013.

The proposed rule for new power plants would *slow the growth* of carbon pollution from any new coal fired power plants. It would not *reduce* atmospheric pollution. The EPA must follow the carbon pollution standard for new plants with one that reduces emissions from *currently* operating power plants—the source of 40 percent of U.S. carbon pollution.

Public Comments Overwhelmingly Favor Reducing Carbon Pollution from Power Plants

The EPA began collecting public comments on the proposed carbon pollution standard on April 13 and will continue until June 25. So far there is broad public support for EPA's proposal. Nearly two million people submitted comments in favor of the rule to EPA, with thousands of additional favorable comments arriving every day. In addition, there was overwhelming support for these rules at EPA's public hearings in May. These supporters also urged EPA to issue limits on carbon pollution from *existing* power plants. When all is said and done the comments on the carbon pollution standard will likely set a new record for public comments on a proposed EPA rule.

So-called war on coal is a special interest myth

Lobbyists from the coal mining and utility industries and their congressional allies recently claimed that the Obama administration has launched a "war on coal." This fear mongering has little basis in fact. The Obama administration has done more than any in memory to help the coal industry develop technologies to burn coal while reducing its carbon pollution, primarily through investments in research, development, and deployment of carbon capture and storage, or CCS, technology.

The American Recovery and Reinvestment Act included $3.4 billion for CCS technology, including $1 billion to revive the "Future Gen" clean coal plant that President George W. Bush had scrapped. The plant will generate 200 megawatts of electricity from coal combustion, with 90 percent capture of its carbon pollution. Emissions of other pollution will be "near zero." Future Gen 2.0 will employ 700 to 1,000 people during construction, and would require 100 to 125 employees to operate it.

Secretary of Energy Dr. Steven Chu noted that:

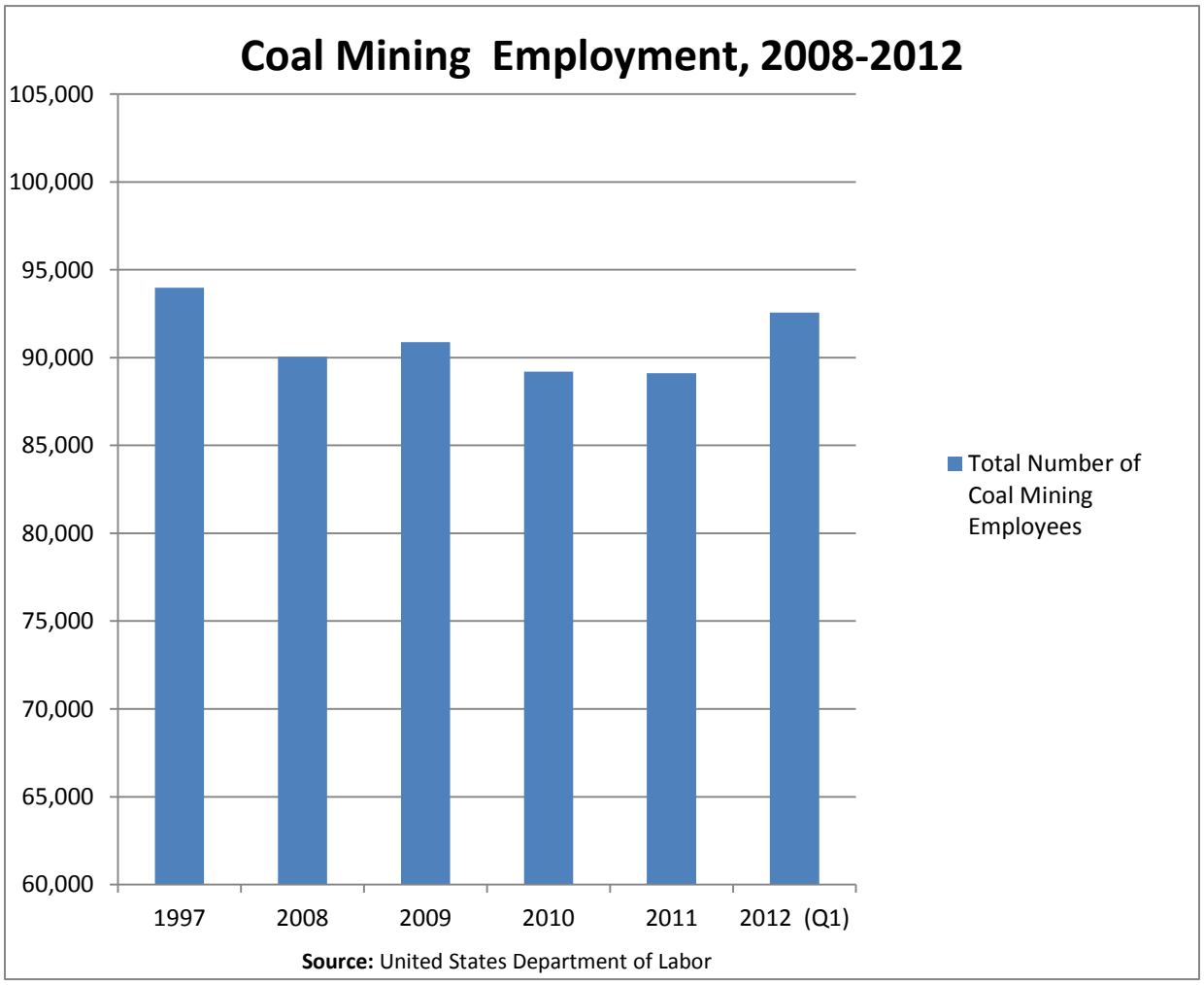
> This investment in the world's first, commercial-scale, oxy-combustion power plant will help to open up the over $300 billion market for coal unit repowering and position the country as a leader in an important part of the global clean energy economy.

Due to inexpensive natural gas and a variety of bureaucratic problems, the project is expected to be operational in 2017 instead of the original goal of 2015.

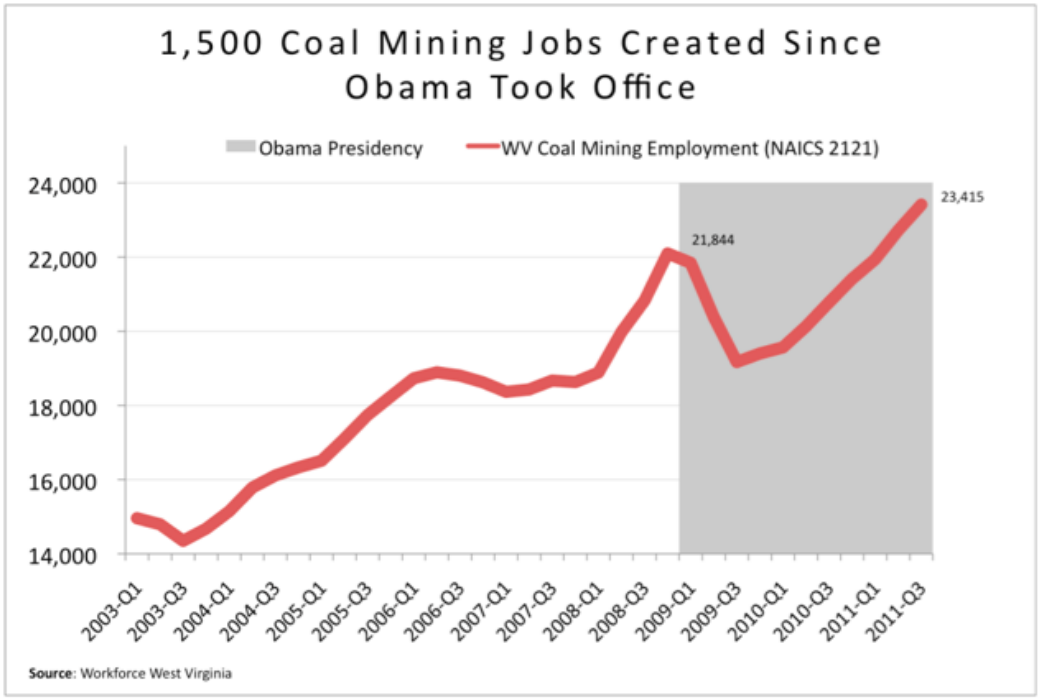
Additional ARRA funding has also gone towards new ways to gain energy from coal and make our current use of coal cleaner and more efficient. This includes investments in reducing carbon pollution from electricity generation and industrial facilities. This includes seven projects in addition to Future Gen 2.0. Two weeks ago the Department of Energy announced "clean coal research awards for universities across the country."

It is unclear whether all of these research and demonstration projects will succeed, but these significant investments in them demonstrate the Obama administration's commitment to coal generated electricity even with long overdue pollution reductions.

Employment figures also debunk this mythical war on coal. On November 18, 2011 *The Charleston Gazette* reported that "employment in the Appalachian mining industry is at a 14-year high, according to new government data and congressional testimony."



In West Virginia a recent report from the nonpartisan West Virginia Center for Budget and Policy showed coal mining jobs are actually rising in the state, with 1,500 new coal jobs added since 2009. In Pennsylvania, Energy Information Administration, or EIA, data shows a 2.3 percent increase in coal related jobs. And in Virginia, EIA data shows a 6.7 percent increase in coal mining employment from 2009 to 2010.



Richard Morgenstern, a former Reagan and Clinton EPA official, predicts that the new carbon pollution standard will have "no net impact" on employment.

EPA also predicts that its proposed carbon pollution standard for new power plants will have no impact on employment or existing coal plants. In fact, the standard simply complements existing market factors, as the EPA points out:

> Because this standard is in line with current industry investment patterns, this proposed standard is not expected to have notable costs and is not projected to impact electricity prices or reliability.

So what is happening to coal? The shift away from coal and towards natural gas electricity generation is due to the low price for natural gas. A February 2012 analysis of coal plant retirements by the Analysis Group found that coal plant declines resulted from basic changes in market forces:

> The sharp decline in natural gas prices, the rising cost of coal, and reduced demand for electricity are all contributing factors in the decisions to retire some … coal-fired generating units. These trends started well before EPA issued its new air pollution standards.

Coal industry executives themselves say that low natural gas prices, a warm winter, and a sluggish economy are the primary reasons for coal mining worker layoffs. The Bipartisan Policy Center noted that industry-commissioned doomsday projections of economic losses from EPA standards are vastly exaggerated by including unrelated regulations and worst-case scenarios.

The Bipartisan Policy Center also found that, "Several investment analysts were conducted prior to EPA's [rule] proposal and made worst case estimates about what EPA was likely to require."

Another sign of the coal industry's health is that large coal companies continue to make huge profits. In 2011 the two largest companies, Peabody Energy and Arch Coal, made profits of $958 million and $143 million, respectively.

The National Academy of Sciences determined that the toxic, smog, and acid pollution from coal combustion for electricity generation in the United States costs Americans $62 billion annually due to premature deaths, asthma attacks, other respiratory ailments, and lost work days due to illness.

A 2011 study in the New York Academy of Sciences by the late Dr. Paul Epstein of Harvard Medical School and others projects that the "best estimates from literature" of the "climate damages from [coal] combustion emissions" is $62 billion annually.

Burning coal without adequate pollution reduction equipment causes real medical and economic harms, particularly for children, seniors, the infirm, and other vulnerable populations.

EPA was compelled to issue reduction requirements for acid rain, smog, mercury, toxics, and carbon pollution now because the Bush administration attempted to establish pollution reductions on mercury and other pollutants that were weaker than required by the law. Because courts struck down these standards, we lost eight years when there could have been billions of pounds of pollution reductions that would have reduced the threat to public health. Such rules would have provided the utility industry with greater certainty than we have today to plan their future investments.

Coal and utility industry lobbyists, media flacks, and other influence-peddling mercenaries concocted this phony war on coal. In reality EPA is simply implementing the laws passed by overwhelming bipartisan majorities in Congress and signed by presidents of both parties to protect public health from myriad of air pollutants that come from coal fired power plants and other industrial sources.

China committed to carbon pollution reduction measures

As the largest historical contributor to atmospheric greenhouse gas pollution, the United States has a responsibility to reduce its emissions. In 2009 President Barack Obama committed the United States to reduce its pollution by 17 percent below 2005 levels by 2020. We are on track to meet that target. U.S. pollution in 2010 was 6 percent lower than 2005 levels. Additional reductions will come from the limits on carbon pollution from motor vehicles. The proposed limits on carbon pollution from new power plants will slow the growth of pollution from the electricity sector. Reductions from existing power plants, oil refineries, and other major industrial polluters are essential to meet the 2020 goal.

To slow the onrushing damages from climate change, other nations must also reduce their carbon pollution. Although the United States is still the largest per-capita carbon pollution emitter with 16.9 tons of carbon pollution per capita, it is only the second-largest annual emitter of carbon and other greenhouse gas pollutants. China is the largest overall annual polluter, providing 17 percent

of global emissions, but it only produces 6.8 tons of carbon pollution per capita. China's per capita emissions are growing, and some experts believe that it may surpass the United States in 2017.

The Chinese economy is still developing and that means consumption and pollution patterns are still in flux. It is difficult to predict at what point Chinese pollution will finally peak and begin to decline.

It is essential that China make an international commitment to cap their emissions to avoid the most severe impacts of climate change. China has yet to do so. It has, however, made serous domestic commitments to reduce carbon pollution intensity (the amount of pollution per unit of GDP) and fossil fuel use. By 2020 the Chinese central government has committed to reduce carbon pollution per unit of GDP by 40 percent to 45 percent from 2005 levels. Non-fossil fuel energy sources accounted for 9.4 percent of China's energy in 2011. It plans to increase that percentage by 0.5 percent annually over the next four years to reach a 2015 target of 11.4 percent. It plans to reach 15 percent non-fossil fuel energy by 2020. Specific policies and programs to achieve these reductions include the following measures.

- Adopting mandatory carbon and energy intensity reduction targets at the national and provincial level. This includes a target responsibility system whereby which local government official promotions depend on their progress towards meeting carbon pollution and energy reduction targets.

- Closing inefficient power plants.

- Strengthening energy-efficiency programs and improving energy-efficiency codes for buildings.

- Drafting a plan to require electric grid companies to purchase a set percentage of their total power supply from renewable sources, which would create a stable market for renewable power generation projects. This national program is similar to many of our states' renewable electricity or portfolio standards. This renewable energy purchase quota may be set as high as 15 percent, but will not be announced until 2013.

- Adopting renewable electricity feed-in tariffs to make solar and other renewables more price-competitive.

- Expand government investment in renewable electricity production.

Conclusion: House must lead pollution reduction efforts, not block them

The urgency to reduce carbon and other global warming pollution grows with every extreme weather event or new scientific findings about impacts from climate change. For instance, on June 16 *The San Francisco Chronicle* reported that Californians face an increase in the West Nile Virus due to global warming:

> Cases of West Nile in birds and mosquitoes are already much higher than usual for this time of year.
>
> The unusual [warm] winter combined with a wet spring probably contributed to the increase in cases because mosquitoes thrive in higher temperatures - they reproduce and mature from larva to adult faster. Plus, the virus replicates faster at higher temperatures.

Yesterday's *Washington Post* reported that sea-level rise due to climate changes threatens to inundate Norfolk, Virginia homes:

> The entire city is worried. Miles of waterways that add to Norfolk's charm are also a major threat in the era of increased global warming and relative rising sea levels, as well as its odd and unique sinking ground.

The National Academy of Sciences published an analysis of scientific assessment of climate change, which found that active climate research had near unanimity that it is real and primarily due to human activity. This evaluation used:

> An extensive dataset of 1,372 climate researchers and their publication and citation data to show that
>
> (i) **97–98% of the climate researchers most actively publishing in the field support the tenets of ACC [anthropogenic climate change]** outlined by the Intergovernmental Panel on Climate Change, and
>
> (ii) the relative climate expertise and scientific prominence of the researchers unconvinced of ACC are substantially below that of the convinced researchers

Nonetheless, some members of this subcommittee and Congress continue to deny that climate change is real or caused by human activity. Ignoring the reams of scientific evidence will not, however, make this imminent threat go away. This approach is like disregarding the strange lump on one's chest X-ray even though 98 of 100 doctors urge prompt steps to remove it.

Unfortunately, during the last Congress the Senate failed to pass the House-passed American Clean Energy and Security Act, which would have reduced carbon pollution by at least 17 percent below 2005 levels by 2020. This bill would have protected public health from more smog, extreme weather, and tropical diseases, as well as created thousands of jobs by increasing investments in the $2 trillion per year worldwide clean tech sector.

Instead of attempting to forestall this looming disaster, the actions of this subcommittee and the House of Representatives would hurry this day of reckoning. A 2011 analysis by the House Energy and Commerce Committee Democrats found repeated attempts to thwart carbon pollution reduction measures. In 2011 the House cast:

> 27 votes to block action to address climate change, including votes to overturn EPA's scientific findings that climate change endangers human health and welfare; to block EPA from regulating carbon pollution from power plants, oil refineries, and vehicles; to

prevent the United States from participating in international climate negotiations; and even to cut funding for basic climate science.

In 2012, the House cast another 10 votes "to block actions that address climate change."

Earlier this month the House passed the 2013 Energy and Water appropriations bill, H.R.5325, which would slice $500 million of investments in solar, wind, and other renewable energy technologies. These investments would have created thousands of jobs while reducing carbon pollution. This bill also included "thirteen amendments…[that] target wind power, carbon-zero building standards, efficiency measures for lighting, batteries and more" according to *Inside Climate News*.

Unlike the House of Representatives, the Obama administration recognizes the climate change menace threatening Americans' health, welfare, jobs, and economy. It is using the tools provided in the Clean Air Act, and ordered by the Supreme Court, to reduce carbon pollution from motor vehicles and new power plants. The administration must also promptly establish pollution reductions for existing power plants, oil refineries, and other large sources of industrial carbon pollution.

After examining the proposed carbon pollution standard at these hearings today, we urge this subcommittee to help reduce the threat to Americans' health, safety, and jobs posed by climate change by heeding the words of Four Star General George S. Patton: "Lead me, follow me, or get out of my way."